

WU : What is the vertex

of $y = \frac{3x^2}{a} - \frac{5x}{b} + \frac{1}{c}$

$$x = \frac{-b}{2a}$$

$$a = 3$$

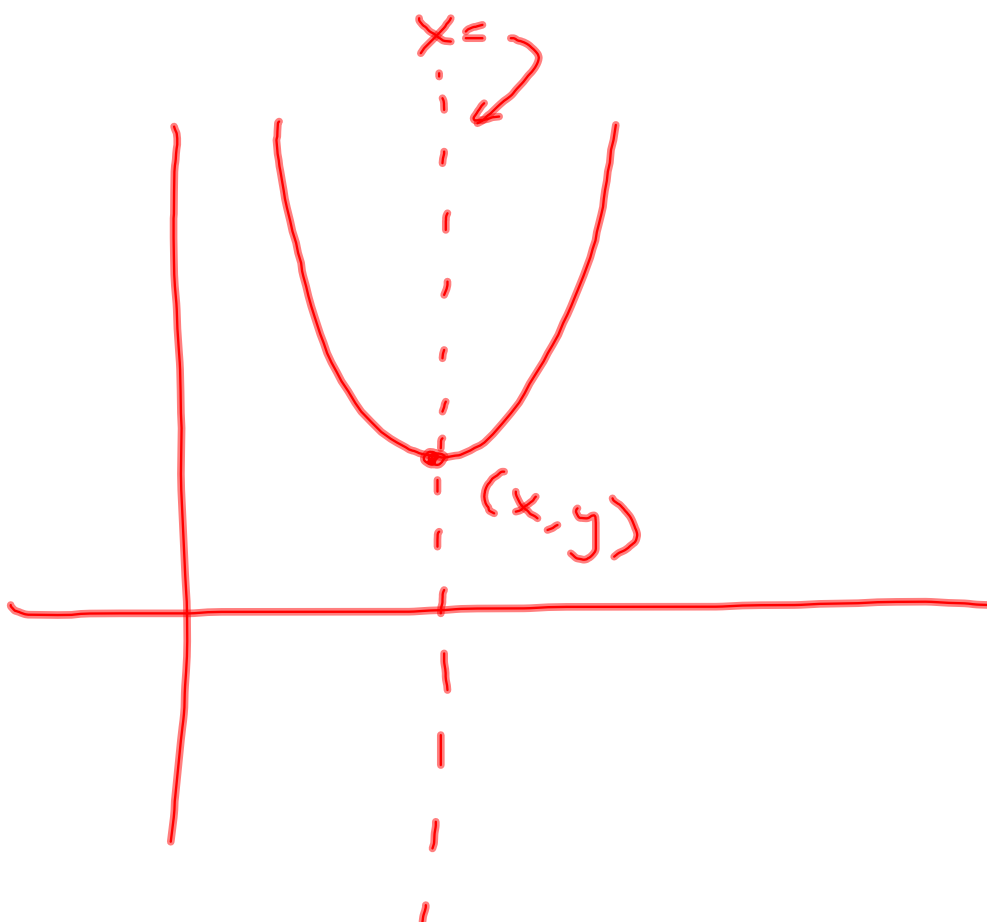
$$b = -5$$

$$c = 1$$

$$x = \frac{-(-5)}{2(3)} = \frac{5}{6}$$

$$y = 3\left(\frac{5}{6}\right)^2 - 5\left(\frac{5}{6}\right) + 1$$

$$y = -1.08$$



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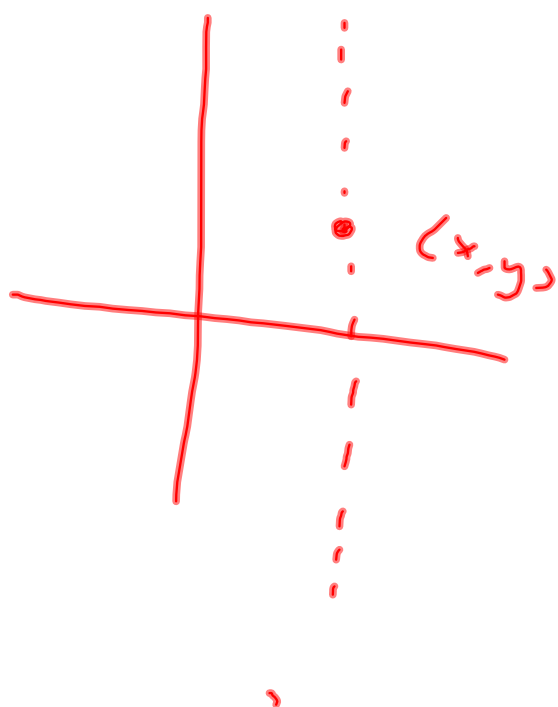
24 ; 28

must
show work

{ ① vertex
② axis of symm

use table
feature.

③ 2 pts on both
sides of the
vertex



24) $y = -2x^2 - 6x + 3$

$a = -2$

$b = -6$

$c = 3$

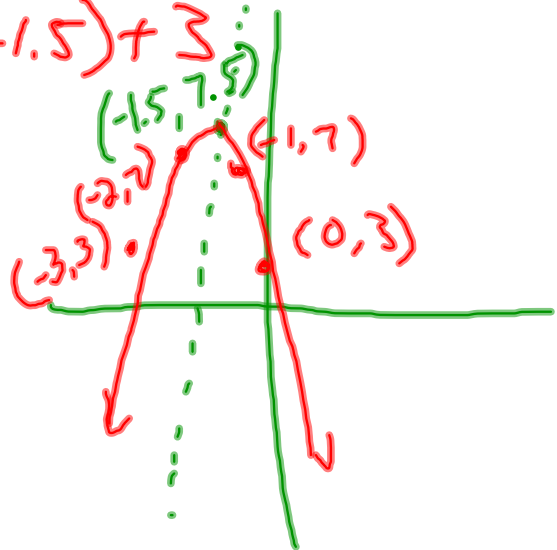
$$x = \frac{-b}{2a}$$

$$x = \frac{-(-6)}{2(-2)} = \frac{6}{-4} = -1.5$$

Axis of Symmetry
 $x = -1.5$

$$y = -2(-1.5)^2 - 6(-1.5) + 3$$

$y = 7.5$



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Real

$(-2.\overline{66}, 4.\overline{33})$

$$y = -3/4 x^2 - 4x - 1$$

$$a = -3/4$$

$$b = -4$$

$$c = -1$$

$$x = \frac{-b}{2a} = \frac{-(-4)}{2(-3/4)} = \frac{4}{-1.5} = -2.\overline{66}$$

$$y = -3/4(-2.\overline{66})^2 - 4(-2.\overline{66}) - 1 = 4.\overline{33}$$

Graph a Parabola in Vertex form.

$$y = x^2$$

$$y = a(x-h)^2 + k$$

$h \rightarrow$ moves to right / left

$$y = (x-5)^2 \quad h = 5 \text{ (right)}$$

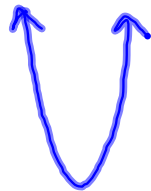
$$y = (x+3)^2 \quad h = -3 \text{ (left)}$$

$k \rightarrow$ moves graph up / down

$$y = (x-0)^2 + 5 \quad k = 5$$

a value stretches / shrinks graph

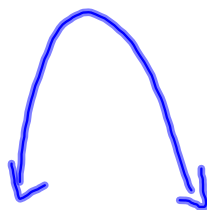
a positive



higher \rightarrow skinnier



a negative



$$y = 2(x-1)^2 + 4$$

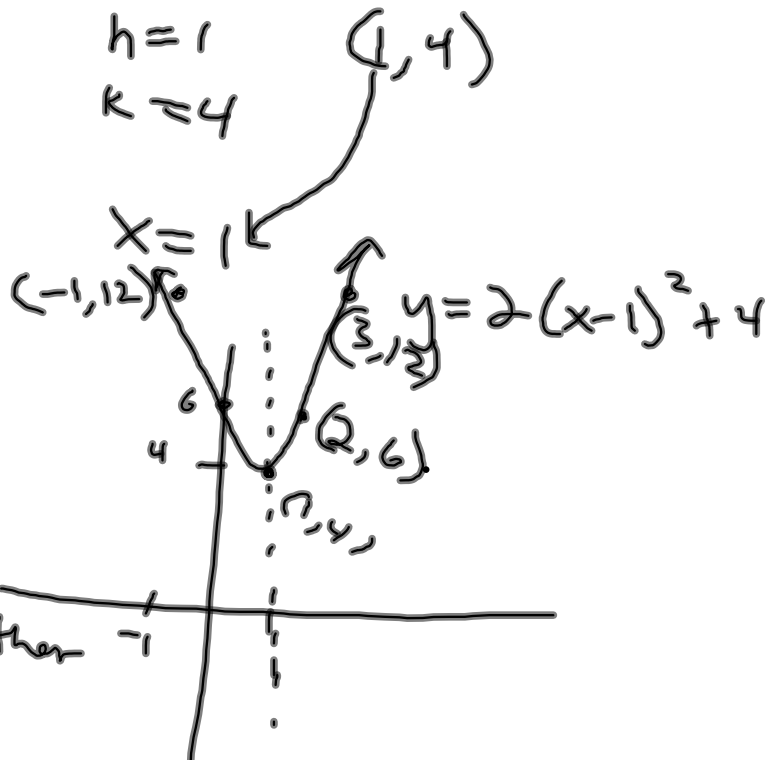
$$y = a(x-h)^2 + k$$

vertex
① (h, k) :

② axis of
symm.

③ Plot.

④ 2 pts either
side:



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